



Vibration-induced shooting drops

Lyes Kahouadji, Maxime Costalonga, Philippe Brunet, Seungwon Shin, Jalel Chergui, Damir Juric, Omar Matar

► To cite this version:

Lyes Kahouadji, Maxime Costalonga, Philippe Brunet, Seungwon Shin, Jalel Chergui, et al.. Vibration-induced shooting drops. 72th Annual Meeting of the APS Division of Fluid Dynamics, Nov 2019, Seattle, United States. American Physical Society, 10.1103/APS.DFD.2019.GFM.P0042 . hal-04401610

HAL Id: hal-04401610

<https://hal.science/hal-04401610v1>

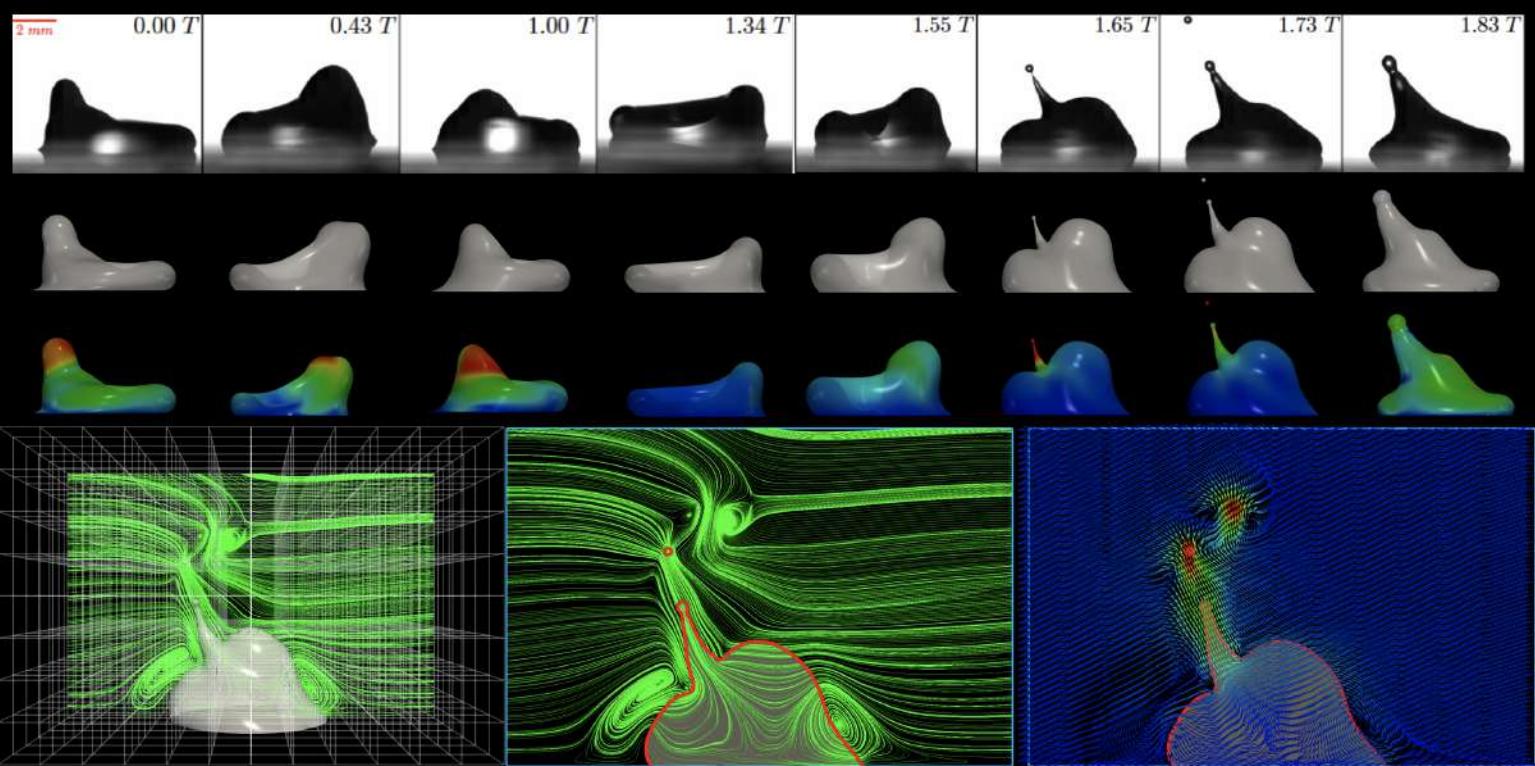
Submitted on 19 Jan 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Vibration-induced shooting drops

L. Kahouadji, M. Costalanga, P. Brunet, S. Shin, J. Chergui, D. Juric, R. V. Craster, and O. K. Matar



50 μL of Water-Glycerol mixture (7.1 c.St) subjected to an oblique oscillation (angle $\alpha = 60^\circ$, frequency $f = 50$ Hz and amplitude $A=0.71\text{mm}$). We perform a three-dimensional Direct Numerical Simulation using a generalized Navier-Slip boundary condition in the context of a front-tracking-based multiphase method. The entire domain is decomposed into 1152 subdomains (12 x 12 x 8). 32 x 32 x 32 is the local resolution per subdomain. 384 x 384 x 256 is the global resolution. This work was performed using high-performance computing resources provided by the Research Computing Service (RCS) of Imperial College London.

Reference:

[1] Maxime Costalanga, PhD, Université Paris-Diderot, Paris VII, (2015).